

What is claimed is:

1. A method of identifying a compound that modulates neurogenesis, comprising:
 - (a) providing a compound that modulates
5 prokineticin receptor (PKR) signaling;
 - (b) contacting a neural stem or progenitor cell with said compound; and
 - (c) determining the ability of said compound to modulate neurogenesis,
10 wherein a compound that modulates neurogenesis is identified.
2. The method of claim 1, wherein said compound that modulates PKR signaling is a PKR agonist.
3. The method of claim 2, wherein step a)
15 comprises contacting a PKR with one or more candidate compounds under conditions wherein PK1 or PK2 promotes a G-protein coupled receptor (GPCR) signal, identifying a compound that promotes said signal, and providing said compound.
- 20 4. The method of claim 3, wherein said signal is calcium ion mobilization.
5. The method of claim 3, wherein said PKR is a recombinantly expressed human PKR.
6. The method of claim 5, wherein said PKR
25 comprises the amino acid sequence designated SEQ ID NO:1 or SEQ ID NO:2.

7. The method of claim 1, wherein said compound that modulates PKR signaling is a PKR antagonist.

8. The method of claim 2, wherein step a) comprises contacting a PKR with one or more candidate compounds under conditions wherein PK1 or PK2 promotes a GPCR signal, identifying a compound that reduces said signal, and providing said compound.

9. The method of claim 8, wherein the reduction of said signal occurs in the presence of PK1 or PK2.

10. The method of claim 8, wherein said signal is calcium ion mobilization.

11. The method of claim 8, wherein said PKR is a recombinantly expressed human PKR.

12. The method of claim 11, wherein said PKR comprises the amino acid sequence designated SEQ ID NO:1 or SEQ ID NO:2.

13. The method of claim 1, wherein said neural stem or progenitor cell is contacted *ex vivo*.

14. The method of claim 13, wherein said cell is a mammalian cell.

15. The method of claim 14, wherein said cell is a human cell.

16. The method of claim 1, wherein said neural stem or progenitor cell is contacted *in vivo*.

17. The method of claim 16, wherein said cell is a mammalian cell.

5 18. The method of claim 17, wherein said cell is a human cell.

19. The method of claim 1, wherein said compound that modulates neurogenesis increases neurogenesis.

10 20. The method of claim 19, wherein said increased neurogenesis is evidenced by increased cell proliferation.

21. The method of claim 1, wherein said compound that modulates neurogenesis decreases
15 neurogenesis.

22. The method of claim 21, wherein said decreased neurogenesis is evidenced by decreased cell proliferation.

23. A method for modulating neurogenesis,
20 comprising contacting a neural stem or progenitor cell with an effective amount of a compound that modulates prokineticin receptor (PKR) signaling.

24. The method of claim 23, wherein said compound that modulates PKR signaling is a PKR agonist.

25. The method of claim 24, wherein said PKR agonist is a prokineticin peptide.

26. The method of claim 25, wherein said prokineticin peptide comprises an amino acid sequence
5 selected from the group consisting of SEQ ID NOS:5-15.

27. The method of claim 25, wherein said prokineticin peptide comprises SEQ ID NO:5 or SEQ ID NO:7.

28. The method of claim 23, wherein said
10 compound that modulates PKR signaling is a PKR antagonist.

29. The method of claim 23, wherein said cell is contacted *ex vivo*.

30. The method of claim 29, wherein said cell
15 is a mammalian cell.

31. The method of claim 30, wherein said cell is a human cell.

32. The method of claim 23, wherein said neural stem or progenitor cell is contacted *in vivo*.

20 33. The method of claim 32, wherein said cell is a mammalian cell.

34. The method of claim 33, wherein said cell is a human cell.

35. The method of claim 33, wherein said human cell resides in an individual having a disorder of neural
5 degeneration or damage.